

ABSTRACT

The invention relates to devices and methods that utilize immobilized bacterial bioreporters
5 genetically engineered to emit light visible to the naked eye in the presence of selected analytes.
An exemplary bioreporter is an E. coli that has been modified to respond to mercury II as a result
of incorporation of a merRop/lux gene cassette into its genome. Systems employing analogously
engineered microorganisms can detect selected toxins quickly without need for expensive
instruments or highly trained technicians.